

Amendments to the Claims:

Please amend claims 1 and 3; cancel claims 4-30 and add new claims 31-50. This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

- 1 1 (currently amended): A method for preparing a substrate for detecting at least one analyte in a sample comprising the steps of:
 - 3 a) exposing the sample to at least two different selectivity conditions, each 4 selectivity condition defined by the combination of an adsorbent and an eluant, to allow retention 5 of the analyte by the adsorbent;
 - 6 b) identifying by desorption spectrometry at least one selectivity condition under 7 which the analyte is retained; and
 - 8 c) preparing a substrate comprising immobilizing at least one adsorbent of an 9 identified selectivity condition on the substrate, whereby the substrate for detecting at least one 10 analyte is prepared.
- 1 2 (original): The method of claim 1 wherein the step of identifying comprises 2 identifying at least one selectivity condition under which a plurality of analytes are retained.
- 1 3 (currently amended): The method of claim 1 wherein the step of preparing 2 immobilizing comprises preparing a substrate comprising immobilizing on the substrate a 3 plurality of adsorbents that retain the analyte under an elution condition as a multiplex adsorbent.
- 1 4-30 (canceled)
- 1 31. (new): The method of claim 1, comprising exposing the sample to at least 2 sixteen different selectivity conditions.

1 32. (new): The method of claim 1, wherein the at least two different
2 selectivity conditions comprise at least two different adsorbents.

1 33. (new): The method of claim 1, wherein the at least one adsorbent has a
2 basis of attraction selected from the group consisting of a hydrophobic interaction; a hydrophilic
3 interaction; an anionic interaction; a cationic interaction, a coordinate covalent interaction, a
4 thiophilic interaction, a biospecific interaction and a glycoprotein interaction adsorbent.

1 34. (new): The method of claim 1, wherein at least two different adsorbents
2 are immobilized on the substrate.

1 35. (new): The method of claim 1, wherein the eluant in the different
2 selectivity conditions is the same.

1 36. (new): The method of claim 1, wherein the eluant is selected from the
2 group consisting of a pH-based eluant, an ionic-strength-based eluant, a water structure-based
3 eluant, a detergent-based eluant and a hydrophobicity-based eluant.

1 37. (new): The method of claim 1, wherein the substrate is a mass
2 spectrometry probe.

1 38. (new): The method of claim 1, wherein the substrate is a bead that is
2 positioned on a mass spectrometry probe.

1 39. (new): The method of claim 1, wherein the at least one adsorbent is
2 immobilized on the substrate in predetermined addressable locations.

1 40. (new): The method of claim 1, wherein the substrate is comprised of a
2 material selected from the group consisting of glass, ceramic, electrically conducting polymers,
3 TEFLON® coated materials, organic polymers, biopolymers, metals, films; beads of cross-
4 linked polymers, and combinations thereof.

1 41. (new): The method of claim 1, wherein the substrate is in the form of a
2 strip or plate.

1 42. (new): The method of claim 1, wherein the substrate is removably
2 insertable into a mass spectrometry probe.

1 43. (new): The method of claim 1, wherein the adsorbent is immobilized on
2 the substrate through covalent bonding.

1 44. (new): The method of claim 1, wherein the adsorbent is immobilized on
2 the substrate through non-covalent bonding.

1 45. (new): The method of claim 1, wherein the adsorbent is immobilized on a
2 bifunctional linker that is immobilized on the substrate.

1 46. (new): The method of claim 45, wherein the bifunctional linker is
2 immobilized on the substrate through an inorganic oxide or a sulphydryl functional group.

1 47. (new): The method of claim 45, wherein the bifunctional linker is a
2 residue of aminopropyl triethoxysilane or aminoethyl disulfide.

1 48. (new): The method of claim 45, wherein the bifunctional linker is a
2 residue of carbodiimide or N-hydroxysuccinimide.

1 49. (new): The method of claim 1, wherein the adsorbent is immobilized on a
2 cross-linked polymer that is immobilized on the substrate.

1 50. (new): The method of claim 49, wherein the cross-linked polymer is
2 selected from the group consisting of cellulose, dextran, carboxymethyl dextran, polyacrylamide
3 and mixtures thereof.